

WHAT IS CLAIMED IS:

1. A multi-stage process for the treatment of organic waste comprising:
 - One) Drying said waste to reduce the water content to below 15%;
 - Two) Subjecting said dried waste to a thermochemical liquefaction process in the presence of a recirculating solvent medium at a temperature of about 275°C to 375°C and a pressure of up to 10 atmospheres, thereby obtaining gaseous, liquid and solid products;
 - Three) Separating the formed slurry product from condensable gas, water and other liquid fractions boiling out at up to 250°C;
 - Four) Transferring said slurry product obtained from thermal extraction from step c to a pyrolysis apparatus and treating the same at a temperature of about 350°C to 500°C to cause additional thermal destruction of unconvertable organic matter of feed material and heavy liquid fractions obtained in step c and their evaporation and removal from pyrolysis apparatus;
 - Five) Separating vapor products from condensable oil products;
 - Six) Vacuum distillation of oil products from step e for the removal of fractions having a boiling temperature of between 250°C and 350°C; and
 - Seven) Recirculating a fraction having a boiling temperature of above 300°C as the recirculating solvent medium for step b.
2. A multi-stage process according to claim 1 wherein said recirculating solvent medium is in itself a liquid product with a boiling temperature of above 300°C.
3. A multi-stage process according to claim 1 wherein said recirculating solvent medium serves as a hydrogen donor in step b.
4. A multi-stage process according to claim 1 wherein said organic waste is sewage sludge.
5. A multi-stage process according to claim 1 wherein said waste is dried to reduce the water content to below 12%.
6. A multi-stage process according to claim 1 wherein the ratio of solvent to sewage sludge feed is between 0.75:1 and 1.5:1.
7. A multi-stage process according to claim 1 wherein the ratio of solvent to sewage sludge feed is about 1:1.

8. A multi-stage process according to claim 1 wherein step d is carried out at a temperature of about 450°C.

9. A multi-stage process according to claim 1 wherein step g is carried out by recirculating a fraction having a boiling temperature of above 350°C as the recirculating solvent medium for step b.